This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A method of producing at least two nanoporous ~~a nanoporous~~ carbide-derived carbon ~~composition~~ compositions ~~with a tunable pore structure and a narrow pore size~~ whose mean diameter differs by in the range of about 0.05 nm to about 0.2 nm comprising

(a) reacting a first quantity of ~~extracting metals from~~ a carbide composition ~~to produce a carbide-derived carbon, said extracting being performed~~ with a halogen at ~~an~~ a first ~~elevated~~ temperature in the range of about 200°C to about 1400°C, to produce nanopores in a first quantity of carbide-derived carbon characterized as having a nanopore size distribution having a full width at half maximum of less than 100% of its mean pore diameter~~, so that a nanoporous carbide-derived carbon composition with a tunable pore structure and a desired pore size is produced.~~ ;

(b) reacting a second quantity of the carbide composition with the halogen at a second temperature in the range of from about 200°C to about 1400°C, to produce nanopores in a second quantity of carbide-derived carbon characterized as having a mean nanopore diameter that differs by in the range of about 0.05 nm to about 0.2 nm than the mean pore diameter of the first quantity.

2. (Original) The method of claim 1 wherein the carbide is Ti_3SiC_2.

3. (Cancelled).

4. (Currently amended) The method of claim 1 wherein the ~~elevated~~ at least one of the first and second temperatures ~~temperature is between 200-1400°C~~ is in the range of from about 300°C to about 1200°C.

5. (Currently amended) The method of claim 1 wherein ~~the elevated temperature is above 700°C~~ at least one of the first and second temperatures is in the range of from about 300°C to about 800°C.

6. (Currently amended) The method of claim 1 wherein the ~~tunability of the~~ difference between the first and second mean nanopore diameter is about ~~pore size is achieved with within~~ 0.05 nm ~~accuracy~~.

7. (Cancelled) .

8. (New) The method of claim 1 wherein the nanopore size distribution of the second quantity of carbide-derived carbon is substantially the same as the first quantity of carbide-derived carbon.

9. (New) The method of claim 1 wherein the difference between the first and second mean pore diameter is about 0.1 nm.

10. (New) The method of claim 1 wherein the carbide composition comprises a carbide of B, Mo, Si, Ti, Ta, Mo, or a mixture thereof.

11. (New) The method of claim 1 wherein the halogen comprises chlorine.

12. (New) The method of claim 1 wherein the mean nanopore size diameter of at least one of the carbide-derived carbons is less than about 2 nm.

13. (New) The method of claim 1 wherein the mean nanopore size diameter of at least one of the carbide-derived carbons is less than about 1 nm.

14. (New) The method of claim 11 wherein the nanopore size distribution of at least one of the carbide-derived carbons has a full width at half maximum of less than about 0.5 nanometers.

15. (New) The method of claim 1, further comprising reacting at least one additional quantity of the carbide composition with the halogen at a temperature in the range of from about 200°C to about 1400°C, to produce a nanoporous composition characterized as having a mean pore diameter that differs by in the range of 0.05 nm to about 0.2 nm than the mean pore diameter of the first quantity or the second quantity.

16. (New) A method of manufacturing a nanoporous carbon composition with a predetermined mean nanopore size comprising:

a) reacting two or more carbide calibration quantities, each of the same initial composition and form, with halogen gas at two or more fixed reaction temperatures for times sufficient to provide a two or more nanoporous carbide-derived carbon calibration compositions, wherein each fixed temperature is in the range of from about 200°C to about 1400°C;

b) measuring the mean nanopore sizes of the resulting nanoporous carbide-derived carbon calibration compositions;

c) correlating the measured nanopore sizes of the resulting nanoporous carbide-derived carbon calibration compositions with the corresponding fixed times and reaction temperatures;

d) identifying the time and temperature corresponding to the predetermined range of nanopore sizes; and

e) reacting a manufacturing quantity of the carbide with the halogen at the time and temperature conditions identified as corresponding to the predetermined range of nanopore sizes.